Remarks

Independent claims 1 and 12 have been amended to make it clear that the RFID transponder of the present invention is a passive RFID transponder as set forth in the specification and not a transponder that uses a battery.

The Examiner rejected claims 1-8 and 10-11 under 35 U.S.C. 103(a) as being unpatentable over Moore in view of Zimmerman et al. Applicant respectfully requests that this rejection be withdrawn. The present invention, as now claimed, clearly distinguishes over the cited art and is not obvious in view of it.

As set forth in the last Amendment A response received on June 17, 2004, the Moore reference does show a tracking system using passive RFID transponder. However, the Moore reference does not allow for data broadcast from one RFID tag/transponder to be received by antennae in different location sites. The addition of the Zimmerman et al. reference would not render the present invention obvious to a person of ordinary skill in the art a the time of the invention as stated by the Examiner for the reasons set forth below.

The Zimmerman et al. reference does not deal with a passive transponder as in the present invention and Moore reference. Zimmerman et al. only discloses an electronic price label using a battery (see column 3, lines 24-27) and not a passive transponder that is specifically disclosed in the Moore reference. In fact, the Moore reference specifically teaches away from using a non-passive transponder. The two references use entirely different transponders/tags and it cannot be said to be obvious to use a battery operated tag in a passive (batteryless) system. In view of the above, independent claim 1, as now presented, is believe to be in condition for allowance. Claims 2-8 and 10-11 depend from claim 1; and accordingly, would also be in condition for allowance.

The Examiner rejected claims 9 and 12 under 35 U.S.C. 103(a) as being unpatentable over Moore in view of Zimmerman et al. as applied to claim 1 above, and further in view of Bauer et al. It is requested that rejection be withdrawn.

Claim 9 depends from claim 1; and for the reasons set forth above for claim 1, should be in condition for allowance.

For the reasons set forth in claim 1, it would not be obvious to one of ordinary skill in the art to combine Moore and Zimmerman et al. to render the present invention, and specifically claim 12, unpatentable. Moreover, the Bauer et al. reference does not disclose determining three-dimension location of tags read by RFID reader. Page 10, paragraph 118 of the reference describes a self-test procedure in which tags situated within the shelves can be used to make sure the system is operational. It is describing a diagnostic test to determine operationability of the system in general and not in any way disclosing a means for determining the three-dimensional location of the transponder broadcasting the information.

In view of the above, it is believed the independent claim 12, as now presented, Is in condition for allowance.

For the above reasons, reconsideration by the Examiner, allowance of the claims as now presented and passing of the case to issuance are respectfully solicited.

Respectfully submitted,

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MAILING CERTIFICATE

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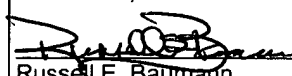

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10/21/04
Date

COMPLETE LIST OF CLAIMS

1. (currently amended) Apparatus for locating an RFID transponder vertical location comprising:

~~an~~ a passive RFID transponder for broadcasting identification data;

a plurality of antenna for receiving said identification data broadcast by said RFID transponder, said identification data from said RFID transponder capable of being received by more than one antenna at different location sites;

a plurality of support members at spaced apart vertical locations suitable for supporting said RFID transponder, and each of said spaced apart support members associated with at least one of said plurality of antenna; and

control circuitry connected to said plurality of antenna for determining which individual antenna at different location sites of said plurality of antenna receives said identification broadcast from said RFID transponder and for determining the location of said RFID transponder as a function of all of the antenna receiving said broadcast data and the support members associated with the antennae receiving said identification data.

2. (original) The apparatus of claim 1 wherein at least two transponders broadcast separate identification data.

3. (original) The apparatus of claim 1 wherein said antenna or loop antennas and the plane of the loop of the antenna is substantially coplanar with said support member.

4. (original) The apparatus of claim 1 wherein each of said support members includes at least two antennae located side by side, and wherein both the vertical and horizontal location of the transponder is determined.

5. (original) The apparatus off claim 1 wherein said RFID transponders are attached to a product or package.

6. (original) The apparatus of claim 1 further comprising a multiplicity of products or packages and a multiplicity of RFID transponders, each transponder for broadcasting different identification data, and at least one each associated with said multiplicity of products or packages.

7. (original) The apparatus of claim 1 wherein said support members at known vertical locations are a plurality of shelves stacked vertically.

8. (original) The apparatus of claim 7 wherein each of said shelves has two or more horizontal locations for supporting products or packages to which a transponder is attached, each shelf has an antenna corresponding to said each of said horizontal locations, and wherein both the vertical and horizontal location of the transponder is determined.

9. (original) The apparatus of claim 1 and further including a multiplexer connected between said control circuitry and said plurality of antennas for selecting a pair of adjacent antennas.

10. (original) The apparatus of claim 1 wherein said RFID transponder stores power transmitted by one or more of said antennas for use to provide said transmitted identification data.

11. (original) The apparatus of claim 1 and further comprising computer circuitry for averaging the vertical location of antennae reading said transponder.

12. (currently amended) A method of locating an RFID transponder in space comprising the steps of:

broadcasting identification data from ~~an~~ a passive RFID transponder;

receiving said broadcast identification data at a plurality of antenna at different location sites;

providing a plurality of spaced apart support members at known vertical locations suitable for supporting said RFID transponders, and each of said spaced apart support members associated with at least one of said plurality of antenna;

determining which antenna at the different location sites receives identification data broadcast from said RFID transponder; and

determining the three-dimensional location of said transponder broadcasting said identification data as a function of the antennas receiving said information data and the support members associated with the antennas receiving said identification data.